

## **IN THE SPECIFICATION:**

**Please amend the paragraph beginning at page 15, line 1 as follows:**

~~FIGURE 7 is a~~Figures 7A-7B represents graphical analysis showing a specificity study of the  $\text{Zn}^{2+}$  binding site on APP.

~~(a)~~Figure 7A APP incubation with  $^{65}\text{Zn}$  and competing unlabelled  $\text{Zn}^{2+}$  was performed under the conditions detailed in Figure 5. In addition, the effect of competition for  $\text{Zn}^{2+}$  binding by  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$  is shown. The values are means  $\pm$  SEM of  $n \geq 3$  readings. The competition curves for  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$  are shifted greater than two log units to the right of the  $\text{Zn}^{2+}$  competition curve, indicating that the binding site is more specific for  $\text{Zn}^{2+}$  at physiological concentrations.

~~(b)~~Figure 7B Comparison was made of the ability of other metal ions to compete with  $^{65}\text{Zn}$  for binding to APP. APP incubations with  $^{65}\text{Zn}$  and competing unlabelled metal ions (at. 20  $\mu\text{M}$ ) were performed under the conditions detailed in Figure 5. The values are means  $\pm$  SEM of  $n \geq 3$  readings.  $\text{Zn}^{2+}$  could compete  $> 97\%$  of the label off the APP at 20  $\mu\text{M}$ .  $\text{Co}^{2+}$  was the next most competitive metal ion, competing  $=70\%$  of the label off the APP at the same concentration.

**Please amend the paragraph beginning at page 16, line 1 as follows**

~~FIGURE 9 is a graphical representation~~Figures 9A-9B are graphical representations of scattergrams of reflectance analysis of immunoblots comparing AD and control plasma APP. The distribution of plasma APP immunoreactivity was analysed by reflectance as detailed in Table 1. Solid lines indicate the means for each subgroup. A significant difference in the levels of 130 and 42 kDa species of APP was seen between AD and pooled control groups. Therefore, further analysis was performed on the differences in the concentrations of these species between

these groups. (a)Figure 9A Proportions of 130 kDa APP in the AD group and individual control groups. The means proportion of 130 kDa APP species ranged approximately 50% to 80% ( $p \leq 0.05$ ; Scheffe; 1959) greater than the AD group compared to each control group. The dotted line indicates a suggested threshold for a biochemical characterization of AD providing 91% specificity and 78% sensitivity. (b)Figure 9B Proportions of 42 kDa APP concentrations in the AD group compared to the individual control groups. The mean proportion of the 42 kDa APP species ranged approximately 30% to 40% ( $p \leq 0.05$ ; Scheffe; 1959) lower in the AD group compared to the young adult and the age-matched control groups. The dotted line indicates a threshold for a biochemical characterization of AD providing 85% specificity and 50% sensitivity.